

REMARKS/ARGUMENTS

This case has been reviewed and analyzed in view of the Official Action dated 4 August 2004. Responsive to the rejections made by the Examiner in the Official Action, Claims 1, 2, and 5-7 have now been amended in order to more clearly clarify the inventive concept of the Applicant.

The Examiner has objected to the Drawings under 37 C.F.R. § 1.83(a) as not showing every feature of the invention specified in the Claims. With regard to the recitation of a “spherical housing”, the Claims have now been amended to reference first and second “hollow housings” having “semi-spherical inner and outer surfaces”. With regard to the “retaining rim”, Fig. 5 has now been amended to include the reference numeral 374 showing the “retaining rim” of the second housing. A substitute Fig. 5 is attached to this Amendment for the Examiner’s approval. Additionally, the Specification has been amended to correct the mislabeling of the retaining rim and the respective cavity. No new subject matter has been inserted.

The Examiner has additionally objected to Claims 1-7 due to the recitation of the “spherical housing”. As noted above, the Claims have now been amended in order to overcome the Examiner’s specific objection. The Examiner has further cited other instances of specific objections with the Claims, and Claims 1, 2, and 5-7 have now been amended and it is believed that the Claims now satisfy overcome the Examiner’s specific objections.

Prior to a discussion of the Examiner's further objections and rejections made in the outstanding Official Action, it is believed that it may be beneficial to briefly review the subject Patent Application system in light of the inventive concept of the Applicant. The subject Patent Application system is directed to a USB plug having a multi-directional rotational surface. As shown in Fig. 4 of the subject Patent Application Drawings, the USB plug includes a first pivotal portion 36 and a second pivotal portion 37. The first pivotal portion 36 and the second pivotal portion 37 each have semi-spherically contoured inner and outer surfaces. As shown in Fig. 5 of the subject Patent Application Drawings, the semi-spherical "ball" portion 36 fits within the semi-spherically contoured "socket" portion 37 in order to create a ball-and-socket type joining structure for a USB device. As shown in Fig. 6, this allows a free range of motion when the device is connected to an electronic device, such as the computer 7 shown in Fig. 7.

The Examiner has rejected Claims 1-7 under 35 U.S.C. § 103(a) as being unpatentable over the Engelmore Patent #4,533,796 in view of the Price reference #6,547,602. It is the Examiner's contention that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Price in order to change the RJ-type connector to a USB connector because, as taught by Price, it will enable electrical components to be operably connected to a similarly equipped component.

The Engelmore reference is directed to a rotatable electrical connector for a telephone cord. As shown in Fig. 4 of the Engelmore reference, a ball-shaped connector 92 is received within a semi-spherical socket 100 of collar 96. As shown in Figs. 1, 5, and 6, this allows for a ball-and-socket pivotal connection for a telephone cord. As further shown in Figs. 1, 2, and, particularly, Fig. 4 of the Engelmore reference, the connector device is in the form of a § 103(a) as being unpatentable over the Engelmore Patent #4,533,796 in view of the Price reference #6,547,602. It is the Examiner's contention that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Price in order to change the RJ-type connector to a USB connector because, as taught by Price, it will enable electrical components to be operably connected to a similarly equipped component.

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As shown in Fig. 4 of the Drawings, the interior region of the connector 26 is, essentially, a hollow cylindrical region. Referring to the ball-shaped portion 92, the wires 80 do not have a free range of motion within the structure, particularly, there is not much

room to move between the region of the ball 92 where the wires project into the hollow cylinder and the upper wall 88, as is clearly shown in Fig. 4. Based upon the combination of the ball with a cylindrical socket, there is a free range of motion of less than approximately 30°, based upon Fig. 4, for the rotation of the ball within the socket.

The Examiner has combined the Engelmore reference with the Price reference only because the Price reference specifically teaches the use of USB port. The Price reference does not include any sort of pivotal interconnection for USB, or other electrical types of, connectors.

Thus, the Engelmore reference and the Price reference, taken alone or in combination, only teach a very limited range of motion for the pivotal connector electrical structure.

In contradistinction, the system of the subject Patent Application provides a ball-type mating element 36 coupled with a socket-type connecting structure 37. The socket 37, however, has semi-spherical inner and outer surfaces, thus providing a far greater range of motion for the ball within the socket. As shown in Figs. 5 and 6, the ball is free to rotate up to approximately 90° within the structure. This provides a far greater degree of rotation than that shown in the Engelmore reference.

Thus, neither the Engelmore reference nor the Price reference, when taken alone or in combination, provide for: "...the first pivotal portion including a first hollow housing having semi-spherical inner and outer surfaces...the second pivotal portion

includes a second hollow housing having semi-spherical inner and outer surfaces...whereby the second hollow housing can be manipulated with no angular limitations and rotated in multiple directions...”, as is clearly provided by newly-amended Independent Claim 1. Further, neither the Engelmore reference nor the Price reference, when taken alone or in combination, provide for: “...two hollow housings having semi-spherical inner and outer surfaces...and one of the two hollow housings is manipulated with no angular limitations and rotated around the other in multiple directions...”, as is clearly provided by newly-amended Independent Claim 5.

Thus, based upon newly-amended Independent Claim 5, it is not believed that the subject Patent Application is made obvious by either the Engelmore reference or the Price reference, when taken alone or in combination, when Independent Claim 5 is carefully reviewed.

It is now believed that the remaining Claims 2-4, 6 and 7 show patentable distinction over the prior art cited by the Examiner for at least the same reasons as those previously discussed for Independent Claims 1 and 5.

The remaining references cited by the Examiner, but not used in the rejection, have been reviewed, but are believed to be further removed when patentable distinctions are taken into account than those cited by the Examiner in the rejection.

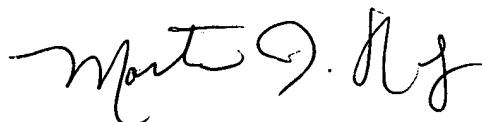
MR1957-804

Application Serial No. 10/720,240

Responsive to Office Action dated 4 August 2004

It is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted,



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AMENDMENTS TO THE DRAWINGS:

The attached sheet of Drawings includes changes to Fig. 5. This sheet, which includes Fig. 5, replaces the original sheet including Fig. 5. In Fig. 5, the previously omitted numeral 374 for the "rim" has been added.

Attachment: Replacement Sheet.